

KEVICC Key Stage 4 Curriculum Subject: Mathematics			Key Vocabulary and notation.	
Autumn Half-Term				
Term: Year 9 Autumn Term – Block Ten		Topic: Collecting and representing data		
What is the essential knowledge from this unit? What do students need to remember and understand?				
	Specification content	Specification notes		
S2	Interpret and construct tables, charts and diagrams including, for categorical data: <ul style="list-style-type: none"> frequency tables bar charts pie charts pictograms vertical line charts for ungrouped discrete numerical data <u>tables and line graphs for time series data</u> know their appropriate use 	including choosing suitable statistical diagrams		
Students should be able to: <ul style="list-style-type: none"> draw any of the above charts or diagrams draw bar charts including composite bar charts and dual bar charts understand which of the diagrams are appropriate for different types of data interpret any of the types of diagram obtain information from any of the types of diagram understand that a time series is a series of data points typically spaced over uniform time intervals plot and interpret time-series graphs use a time-series graph to predict a subsequent value understand that if data points are joined with a line then the line will not represent actual values but will show a trend design and use two-way tables complete a two-way table from given information. 				
S4	Interpret, analyse and compare distributions of data sets from univariate empirical distributions through appropriate graphical representation involving discrete, continuous and grouped data	know and understand the terms primary data, secondary data, discrete data and continuous data		
Students should be able to: <ul style="list-style-type: none"> decide whether data is qualitative, discrete or continuous and use this decision to make sound judgements in choosing suitable diagrams for the data understand the difference between grouped and ungrouped data understand the advantages and disadvantages of grouping data distinguish between primary and secondary data use lists, tables or diagrams to find values for the above measures find the mean for a discrete frequency distribution find the median for a discrete frequency distribution find the mode or modal class for frequency distributions calculate an estimate of the mean for a grouped frequency distribution, knowing why it is an estimate find the interval containing the median for a grouped frequency distribution choose an appropriate measure to be the 'average', according to the nature of the data identify outliers find patterns in data that may lead to a conclusion being drawn look for unusual data values such as a value that does not fit an otherwise good correlation. 				
			Hypothesis Comparison Investigation Bivariate Enquiry Grouped Primary/ data secondary Frequency data diagram Sample Discrete Questionnaire Continuous Questions Intervals Design Range Multiple Spread choice Consistent Response box Average Biased Compare Pictogram Distribution Bar chart Broken axis Line graph Mislead Tally Difference Frequency Total Multiple bar Subtotal chart Grouped Scale Tally Axes Range Comparison Group Key Equal Pie Chart Class Fraction Class Full turn boundary Proportion Estimate Line graph Less Scale than/Equal Change to Read Greater off/read from than Proportion Mathematical questioning should be designed to unpick the structure of the maths and deepen the student's understanding. When students talk about mathematical concepts, they should develop the vital mathematical language that helps them explain their ideas fully. Students are expected and encouraged to use terminology during all discussions, verbal feedback and in written content.	

<p>What prior learning supports understanding of this content?</p> <ul style="list-style-type: none"> • Interpret and present discrete and continuous data using appropriate graphical methods including bar charts, pictograms, and time graphs. • Complete, read and interpret information in tables, including timetables. • Interpret and construct pie charts and line graphs and use these to solve problems. 	<p>How does this content link to future learning?</p> <ul style="list-style-type: none"> • Recognise and name positive, negative or no correlation as types of correlation. • Recognise and name strong, moderate, or weak correlation as strengths of correlation. • Understand that just because a correlation exists, it does not necessarily mean that causality is present. • Draw a line of best fit by eye for data with strong enough correlation or know that a line of best fit is not justified due to the lack of correlation. • Understand outliers and make decisions whether or not to include them when drawing a line of best fit. • Use a line of best fit to estimate unknown values when appropriate.
<p>Reading: <i>Where in the unit are students supported to read complex academic text?</i></p> <ul style="list-style-type: none"> • Reading and understanding mathematical questions and problems' – teacher input. • Decoding complex examination questions - explain what they are asking the student to do' – teacher input. • Following instructions to solve problems - break down the tasks – teacher input. • Recognising terminology, numbers, and symbols. 	<p>Writing: <i>Independent writing tasks and how they are structured</i></p> <ul style="list-style-type: none"> • Using the correct subject specific terminology for numbers and symbols – examination papers, class books. • Responding to questions that ask for an explanation or a reason – examination papers, class books. • Self-evaluation, reviewing, reflecting and analysis of own work – class books, personalised learning checklists and analysis. • Creating notes that can be used later for revision purposes - class books, revision cards, mind maps etc.
<p>Key assessments:</p> <p>How will do students review the information learned?</p> <p>End of block assessments.</p> <p>AQA end of block assessments provide a quick progress check at the end of each block of learning to make sure students have understood the content being covered. These are available for both foundation and higher tiers.</p> <p>End of term/year assessments and mock examinations.</p> <p>End of term assessments assessing the students' progress towards targets and provide diagnostic information to modify future teaching.</p> <p>End of year 9 and 10 examinations assessing the students' progress towards targets and provide diagnostic information to modify future teaching.</p> <p>Two mock examinations seasons take place during year 11 using previous years AQA 8300 examination papers. Students to experience the full suite of papers at both Foundation and higher tiers using Non-calculator and Calculator requirements.</p> <p>All examinations will explore the three examination papers at both foundation and higher tiers using non-calculator and calculator requirements.</p> <p>How will feedback be seen?</p> <p>Marked end of block, term assessments and mock examinations.</p> <p>Personalised learning checklists for all assessments identifying strengths and areas of development.</p> <p>Written teacher feedback and marking in compliance with faculty and College Marking Policies. Student responses to marking. Students self-mark using purple pen. Verbal feedback given every lesson from teacher and peers as appropriate. Teacher and student self-assessment of presentation of class books will be completed to ensure written work is of high standard and students are achieving their potential.</p>	